



AWA Newsletter

Issue 32

August 2008

Antique Wireless Association of Southern Africa

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The Joys of Antique Wireless :

This month has been rather hectic for me getting back from leave and then having to try and play catch up with everything.

However I so enjoyed getting back in to my shack and being able to play some amateur radio again, only to discover that my Collins 32V-3 was not going to play along. Firstly not wanting to transmit anything, and secondly having a terrible hum on the output.

The output problem was finally put down to finger trouble in that some of the settings had changed, either by brushing past the dials or bumping them. This was swiftly sorted out. After a quick re-tune and set up she was back at nearly 100w on AM, but the hum persisted.

Anyway, what's an AM signal from an antique radio without a bit of hum in it. My sentiments exactly. One day with a bit of time and energy we'll sort that out.

The next problem was the Collins 75A-3 that would not receive on AM. SSB signals come pounding in, but the AM don't want to work. So that was also shelved for another day as the 75S-3 at least has a good AM receiver built into it.

Next was the 32S-3 Transmitter that now has a bit of corrosion on the open relays and won't tune up. So we'll have to pull that out of it's case and clean up the contacts again to get it back in working order.

Who said that collecting



antiques was fun. You spend your days trying to keep them in operating condition, but believe me, when they work, there's nothing to beat them.

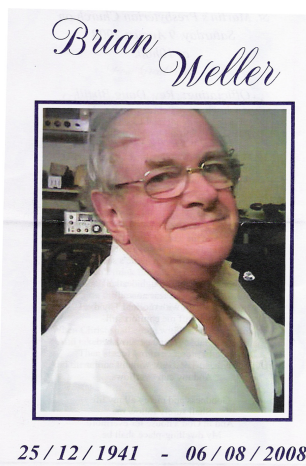
Art Collins and the designers from his era built some wonderful rigs. Just to keep us busy and enjoy the hobby. So that's what we do for fun. Who would ever have thought that after so many years, they would still be going strong and warming the hearts of many an operator.

Andy ZS6ADY

AWA Committee:

- * President—Rad ZS6RAD
- * Treasurer—Willie ZS5WI
- * Technical—Don ZS5DR
- * Net Controller—Willem ZS6ALL
- * Newsletter/PRO—Andy ZS6ADY

Silent Key



It is with regret that we inform you of the passing of Brian Weller ZS2AB.

Brian became a member of the AWA shortly after the AM group got up and going and was known to be a keen AM enthusiast, using his homebrew "Big Blue" transmitter.

Brian often called in to the AM net, did a short burst of MF transmissions and then moved off to join another group of AM enthusiasts' with whom he had a long standing relationship. I would often receive SMS's from Brian saying that he was listening to our MF transmissions on AM.

To his wife Marge and the family, we send our sincere condolences and say that although the relationship with the AWA was short, it will be well remembered.

CW Net:

John ZS6HK, posted this great little article on the SARL Website and I thought it may be nice for others to read it. So John with your permission:

I was thinking again. Actually I was looking through the few keys and paddles that I have and I was admiring one very old brass one that is rather special to me. When i was quite young and had not got into amateur radio I went to work at the W/T Department of the Admiralty in Britain and found myself among some ex-professional radio operators, both Naval and civil. I now have the key that one man used throughout his radio operator career from the days of Titanic right through WW2 and into the 1950's. The contacts are very well used, repaired and replaced and I often wonder what messages had been sent with this instrument. Anything of

great significance in the scheme of things? Or just the handiwork of a good radio operator doing his job? He never spoke much about his experiences other than to express the pride that he had felt having the part that was his to play. He rather playfully scorned the idea that whilst people such as you and I could get a licence to operate by learning a few facts about band edges and the length of a dipole, a person such as himself could not just get on the air with all the knowledge and experience that so many years had given him. I always remember one tip he gave me about pencils. Evidently in "his day" only round pencils were used to copy and never the hexagonal kind. The reason for this is that the operator would be continually rotating the pencil to ensure a consistent sharp mark on the paper. A hexagonal

shaped pencil would perhaps tend to leave a flattened trace. I wondered if such techniques were taught, as Joe was a Marconi Man, or are they just personal. Ever wondered why the French call "Appel General" instead of CQ?? It does seem a little odd to use such a long-winded term, doesn't it. My lovely new French wife explained it for me with hoots of laughter when she first heard a CQ on SSB. She was not surprised that her fellow-countrymen use Appel General. When spoken in a French way the call CQ comes out as "Say Key" which, in French, is "This is Arse"!!!

See, there is a reason for everything. Vive la France!!

73

De ZS0AWA/CW—SK

SSB activity:

Who said that the HF bands were improving ? Well by the looks of things we are really at an all time low at the moment. Many people saying they have never known such bad band conditions in all their ham related lives.

But still we soldier on, trying our best to get guys up on frequency and use their old rigs to do it, and sometimes I think quite successfully too. We are still averaging around 15-20 calls on a Saturday morning between 80 and 40 meters, so

who's complaining ?

80m seems to be proving to be very good for the skip stations, especially to div 5, which is normally not heard on 40m.

Our thanks to all those who continue to keep the bands alive by calling in on the net. Ken ZS2OC, Dudley Z22JE and Barrie ZS6AJY, I don't think I can remember a Saturday that these guys have not called in on 40m, but I think that anyone using the bands needs a special

thanks.

Do keep trying, there has to be a change some time and we are going to be there



Hammurand HQ100

AM:

The numbers on the AM net are also seriously dwindling, but yet there are a few of us who absolutely will not give up. Reminds me a lot of Churchill's speech about never giving up. Maybe we need to write one about the ham bands.

As I mentioned, there are a few old sticklers, and now we have even resorted to trying out at a different time. So if you still interested in doing some AM transmissions, join us on Friday

afternoon from about 15:30 on 3615. Conditions at that time of the day are certainly a lot better than later on and so we give it a bash.

Don ZS5DR, Rad ZS6RAD and myself have been doing some tests at this time on Fridays and it works quite well. We've even been joined by some stragglers just passing along the band to see if there's life on planet earth.

So if you're home early on a Friday and

seriously don't know what to do with yourself, switch on and join us.



Yaesu FT 200

Yeadu FT501 Restoration- By: William-ZS4L

Andy ZS6ADY asked me to submit a short description of my FT501 restoration , so here goes-Hope it makes for interesting (not bedtime) reading..

I have always had a soft spot for the older rigs-especially the earlier (modern) era rigs like the Atlas 350 and the Yeadu FT501, simply because they had frequency readouts, and were well equipped for their time. The Atlas even had dual VFO's-not bad for a rig manufactured in the early to mid 70's!. Something old, something new- a nice mix of technologies.

The FT501 was the first Hybrid Yeadu rig to sport a new Nixie tube frequency readout. (Hybrid meaning that It uses a lovely sprinkling of Tubes, Transistors, Fets and IC's).The display is a very elaborate affair where the VFO is heterodyned with two Xtal frequencies and uses programming from the band wafer switch to display the correct frequency for every band. At last count there were about 25 TTL logic chips on the 'counter PCB alone!.

The 6 Thermionic Valves are used in the IF / RF and PA stages. The PA (Power Amplifier) uses two of those hen's teeth 6KD6 sweep tubes and delivers about 200w PEP with good tubes. (These 6KD6's are still the original Hitachi tubes from Jap Land)

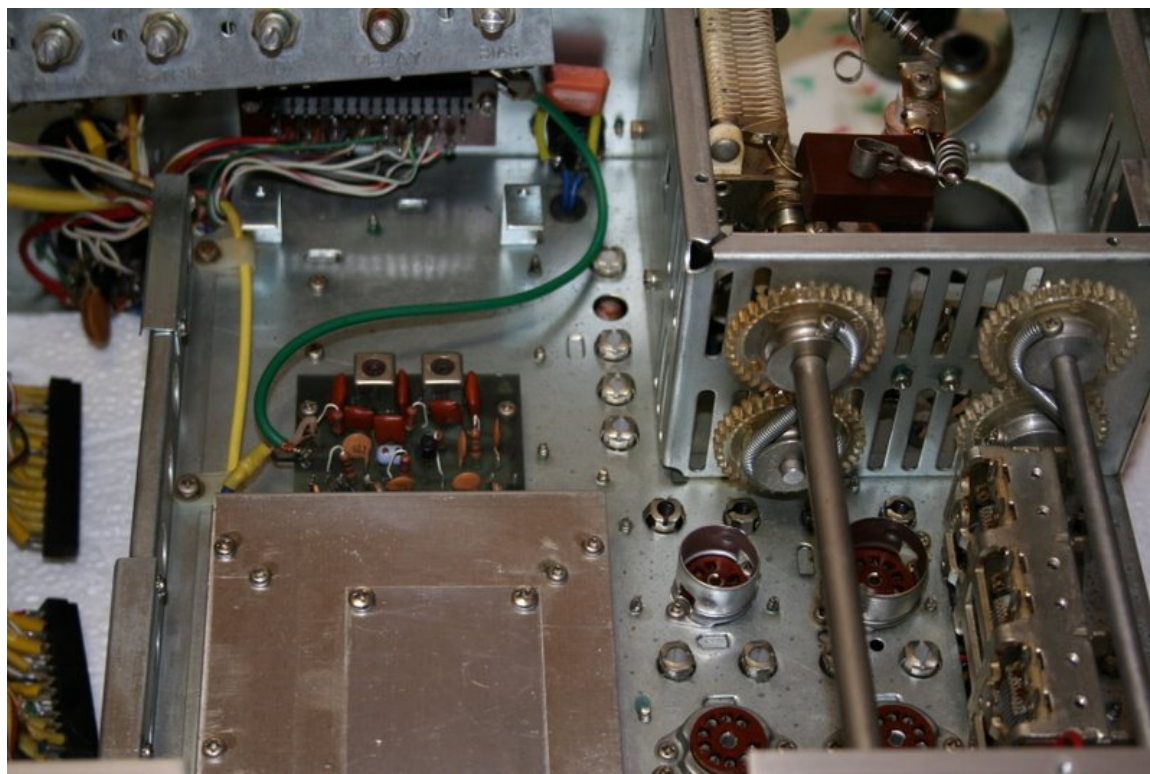
Interestingly enough most of the RX section consists of tubes, which makes the receiver relatively immune to strong signals. Also what the old 501 seems to lose with less front-end gain, it makes up with a good signal to noise ratio. Any signals below S5 will barely disturb the AGC-but the station is very readable nonetheless.

This particular rig had spent most of its' life at the coast, so pit marks / oxidation was quite apparent on the chassis and covers-and so first task ahead was to clean the rig.

A compressor was used to remove the years of accumulated dust-care was taken not to damage the 'S' meter and capacitor vanes!.

The chassis was then painstakingly cleaned using Mag Wheel cleaner and cotton buds. A very slow process!. When the chassis was clean, the cleaner had to be neutralised using warm water on a cotton bud.-(It contains a slight amount of Caustic Soda-never apply this to painted surfaces!)

The chassis was then sprayed down with Servisol, including the wafers, pots , shafts , Variable caps, valve bases and anything else that looked a bit cruddy.



The Chassis after cleaning , cleaning and more cleaning!

Once again the chassis was blasted with compressed air to remove the excess Servisol.

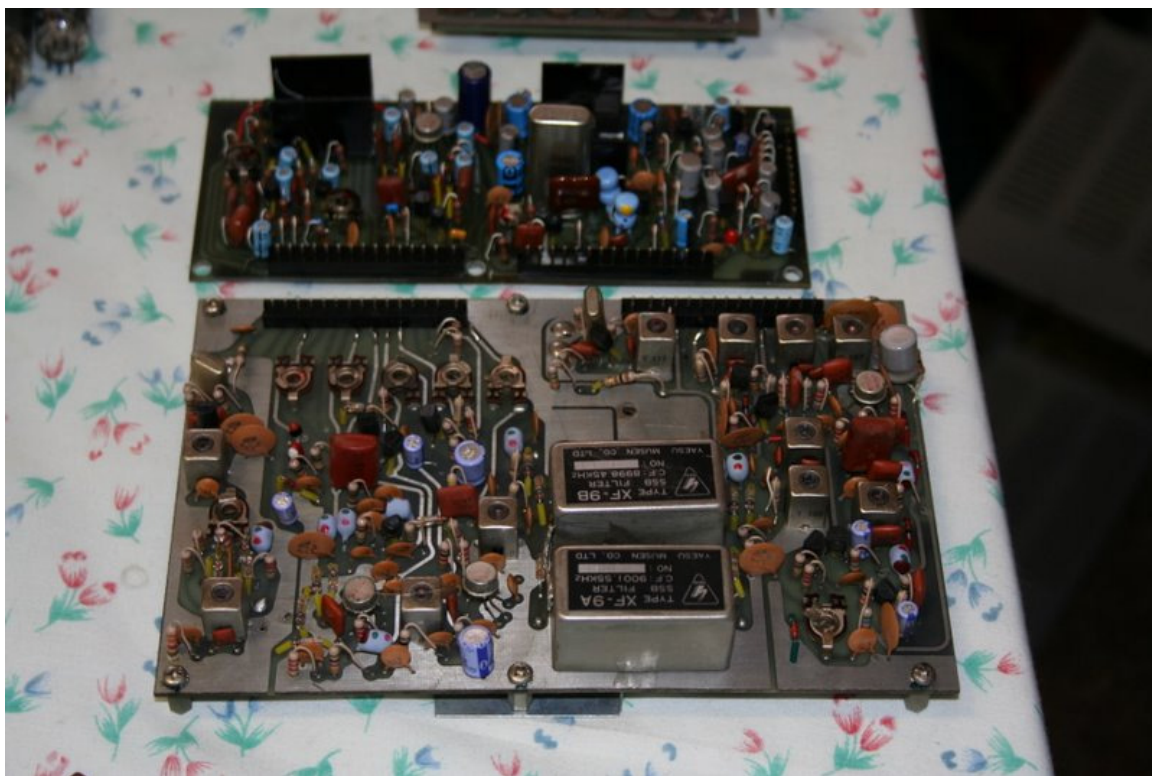
All knobs were removed and cleaned with Handy Andy , the front face was wiped down with a slightly damp cloth soaked in Handy Andy and warm water. Cotton buds got into those very tight spots that a brush would not get into. All the tubes were wiped down –no I did not wipe over the tube markings!.

The fan was removed and serviced-all moving parts got a very slight coating of PTFE oil.

Aaah-what a sight!-now for the non-visible gremlins-AKA the electronics:..

The Audio and IF boards were tackled first-it is always a good idea to replace suspect/leaky capacitors-and decoupling capacitors as a rule-so this was tackled with great gusto, and when I looked again, a whole pile of used capacitors had been accumulated!. Some ceramic caps had split-and some electrolytic's had swollen and were about to do the same .(Split too!.) Sometimes a cap will test fine-but it still has a very high internal resistance (reactance), and best rule is , when in doubt, throw it out! . This is especially true of inter stage caps in valve rigs where the driver stage is coupled from anode via a blocking cap to the grid of the next stage-this fault could be quite disastrous when a cap becomes leaky, case in point the old FT101 rigs- some of them literally went up in smoke when the owner looked the other way-but I digress..

The Counter was tackled next-some clever guy had used candle wax on every coil / IFT in the entire set, (Bless his soul!.) the Counter of course was not spared, and all the slugs had to be unseated using a hair dryer on low temperature-I lost 2 slugs in this process, (Eish!)-and had to be replaced. (Proper tuning tools are a must by the way!.)



Audio and IF Boards (Cleaned with thinners-You have to be quick!)

There is
tune-up
proce-
dure for
the

Counter, and the down side of unseating coil slugs is that EVERYTHING is misaligned-and to top that the PCB's are not silk-screened, so extensive circuit tracing was required.

Anyhow, I worked out a form of tune-up procedure, and started twiddling-slowly I could get readings on the frequency counter-and purely by accident I discovered that the one Xtal was being frequency doubled to 22.5Mhz!.

The LSD nixie tube would not work-and although the counter IC502 was being strobed-no outputs were high from this chip. I unsoldered the sucker using the soldering iron and compressor-(old double-sided PCB.s have a tendency to peel when components are removed, so I decided to use the messy, but safe method..!).

I replaced some decoupling caps and checked the display-Hoorah, it was working!.



Whilst working on the display, the starting cap for the cooling fan gave up the ghost-(a one microfarad 250v non-polarised .) This was temporarily replaced with a .63 micro cap until I received the replacement capacitor.

With that out the way-the alignment was started, early in this procedure when I finally got something to work; (remember those slugs?..), I realised that the AGC time constants were horrible to say the least-and an entire week was spent to get this working properly.

The AGC decay was too fast and would pump the audio-so timing components were changed to suit and the IF gain was increased slightly. (Thanks John ZS5JF for the advice regarding the CA3053 chips!).

Back to transmit.. -too much ALC bias from the final-this means that there is no transmit gain at all. (old Yeasu's have a full scale indication in the ALC position, the meter flicks down the scale as the ALC becomes active.)

This turned out to be a bit of a brain teaser as the 2nF 1kV coupling cap tested OK-but there was still a DC bias present. It turned out to be C52 (2nF) that was leaky (Around 50 Megaohm!).

The 50 pF driver DC blocking cap to the finals were replaced as well-just in case...

The alignment was resumed, and on 40m old 501 would not output anything but the IF frequency of 9Mhz!. Eh?..

Tuning the coils did not help-after many interesting uncouth words and a day that passed I discovered the 9Mhz trap to be mis-aligned. It seems simple now in retrospect.. The Heterodyne osc. board also had an intermittent connection.

40m now aligned, I started on 80, that was aligned but a fault is still present-when on tune on 80m the output is low (60w), but on voice it is OK-weird?. Other bands are fine.

(Move that one to the snag list.)

The carrier Osc. Has to be frequency stabilised too one day-however it seems to be on freq. when the rig is warm.

The microphone amp was converted from High Z to Low Z (Z-impedance) to suit my amplified microphones. All the interstage coupling caps were increased from .1 to 1 microfarad to improve the low frequency response. The audio power amp IC was not spared as well, and it received new caps.

Apart from the odd broken wire and duff components there were no flat tubes and not too many **chips** were turned in to **crisps** along the way-so I was happy!.

The covers were sanded and spray-painted. Still want to powder coat them though.

Add that one to the wish list-Hi!



Having used the rig a couple of times I must say that the results are very gratifying-and as a bonus the audio on transmit seems very good matched with the Turner microphone.



Now to sit back and spin the tuning dial, listen to far-off stations around the world and old friends locally-the soft glow of the nixie tubes in the background-the smell of tubes glowing and servisol filling the room-Aaah---Ham Heaven!!!.

William
ZS4L / ZS5WC
25 August 2008

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**Antique Wireless Association
of Southern Africa**

Mission Statement

Our aim is to facilitate, generate and maintain an interest in the location, acquisition, repair and use of yester-days radio transmitters and receivers. To encourage all like minded amateurs to do the same thus ensuring the maintenance and preservation of our amateur heritage.

Membership of this group is free and by association.

Notices:

Net Days and Times:

SSB Net Saturday morning
Time: 08:30
Freq: 7070

AM Net: Wednesday Evenings; Friday Afternoon
Time: Wed from 18:30 and Friday from 15:30
Freq: 3615

AM Net: Saturday Morning
Time: From 06:00
Freq: 3615

CW Net: Saturday Afternoon
Time: 14:00/14:30
Freq: 7020/3579

SNAIL MAIL:

Unfortunately our funds for the snail mail newsletter are depleted and I cannot afford to carry the costs of postage on my own, just over R200 a quarter. Anyone wanting to make any donations towards this would be welcome. You can either transfer direct to my "Savings Account" at Standard Bank Benoni (01 30 42 40); Acc # 225334119, or wrap a note in a piece of white paper and mail it to me at my P.O. Box as listed.

FOR SALE/SWOP:

1958 Eddystone 680X in mint condition with original Manual—Price R1000

Eddystone S888 receiver—needs work—offers or swop.

Eddystone all wave four receiver—offers or swop

Contact Barry ZS2H, by email.